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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/675,543	09/30/2003	Jerrell Hein	026-0035	5968
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EXAMINER
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CHANG, JOSEPH

ART UNIT	PAPER NUMBER
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2817

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/675,543

Applicant(s)

HEIN ET AL.

Examiner

Joseph Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,6-12,16-18,21-23,26-31,35-39, 42 and 43 is/are rejected.
- 7) ☒ Claim(s) 3-5,13-15,19,20,24,25,32-34,40,41 and 44-46 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/7/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

Claims (5 and 6) and (42 and 43) are objected to because of the following informalities: these claims are formed in one paragraph, and therefore they should be separated. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 6-10, 16, 17, 26-30, 35, 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Estakhri et al US Patent No. 6404246 (cited by the applicant).

Regarding Claims 26, 27, Estakhri et al. disclose an apparatus (Figure 2) comprising a controllable oscillator (206) coupled to receive a reference frequency (200) and a control value (Vout) and to output a clock (VCO Clock); a terminal (218) for receiving a calibration clock (Precision External Clock); a phase-locked loop circuit (loop in 2000) including the controllable oscillator (206) is coupled to receive the calibration clock (Precision External Clock) and generate a correction factor (Count Value in 212) to cause the controllable oscillator to lock to a multiple of the calibration clock (Col.5, lines 20-24); and a non-volatile memory (213) storing the correction factor (Col.4, lines 52-65).

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Regarding claim 28, memory locations in 213 inherently store a history of correction factors because the structure of Estakhri et al. is the same as the device recited in the claim. It is noted that an apparatus must be distinguished from the prior art in terms of structure rather than function alone. (See MPEP 2114).

Regarding Claims 29, 38, as discussed in the claim 28 rejection, the "serial commands" is not a structure limitation and the terminal 218 is capable of receive serial commands because the structure of Estakhri et al. is the same as the device recited in the claim.

Regarding Claims 30, 35, Figure 2 shows integrated circuit (2000, and see Col. 4, line 63) including the controllable oscillator (206) and the PLL (loop in 2000).

Regarding Claims 1,2,6-9, 10, 16, 17 the methods are inherent to the structure of device of Estakhri et al.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

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under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 11, 12, 18, 21-23, 31, 36, 37, 39, 42, 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Estakhri et al.

Regarding Claims 12, 31, 39, as discussed above, Estakhri et al. discloses an apparatus as recited in the claim. However, Estakhri et al. does not explicitly disclose that the terminal is a pin on a package holding a semiconductor device. As would have been well known in the semiconductor device art, such an arrangement of terminal setting is conventional and necessary to hold the circuit in the package and therefore it would have been obvious to one of ordinary skill in the art to use the terminal on a package to hold the device of Estakhri et al. because such an arrangement would have been necessary to hold the circuit in the package. Regarding the package being a ceramic would have been obvious because of well-known material for the package in the semiconductor manufacture art and for its firmness to protect the circuit inside. The method claim 12 is inherent to the modified structure of Estakhri et al.

Regarding Claims 11, 21-23, 36, 37, 42, 43 as discussed above, Estakhri et al. discloses an apparatus as recited in the claim. However, Estakhri et al. does not disclose a surface acoustic wave (SAW) device as a supplying reference frequency source. As would have been well known in the art, such a surface acoustic wave (SAW) device as a supplying reference frequency source is conventional and it provides

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accurate oscillation frequency and further, Estakhri et al. suggests in Col. 5, lines 45-52 that the RC oscillator can be replaced by any other oscillation source and therefore it would have been obvious to one of ordinary skill in the art to use SAW device in place of the RC oscillator of Estakhri et al. because such a modification would have provided more accurate oscillation frequency. The methods recited in the claims 11, 21-23 are inherent to the modified structure of device of Estakhri et al. Regarding Claim 43, a resonating device (SAW) in a sealed package would have been obvious based on the protection consideration.

Regarding Claim 18, the method of setting a voltage control input to midrange prior to proving the calibration clock would have been obvious based on the mere optimization setting for the frequency range of the controllable oscillator.

***Allowable Subject Matter***

Claims 3-5, 13-15, 19, 20, 24, 25, 32-34, 40, 41, 44-46 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the best prior art of record, Estakhri et al, taken alone or in combination of other references, does not teach or fairly suggest the method of generating correction factors by temperatures in the non-volatile memory (Claims 3-5, 44-46), or method of disabling a VCXO mode (Claim 19) or a temperature compensation mode (Claim 20), or method of receiving a calibration clock over a terminal and receiving a command sequence over

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the terminal prior to receiving the calibration clock (Claims 13-15, 24, 25), or the terminal is bi-directional (Claim 32), or a control circuit recited in Claim 33 (Claims 33, 34, 40, 41).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Thomsen et al. discloses a PLL with programmable clock source.

Hein et al. discloses a PLL with temperature compensation.

Sutardja discloses an IC oscillator communicating with the NVM for temperature calibrating data.

Zwack discloses oscillator circuit having a memory.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Chang whose telephone number is 571 272-1759. The examiner can normally be reached on Mon-Fri 0700-1730.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571) 272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Joseph Chang", written in a cursive style.

Joseph Chang  
Patent Examiner  
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